



DoD RFID Policy :

Leading the Way in two Worlds

- Active and Passive RFID

July 13, 2004



DOD Logistics Automatic Identification Technology Office



Facing new challenges...

- **Rapidly moving force on a dynamic battlefield**
- **Demand for better information on assets**
- **Need for more effective management of inventory**





Lessons from OIF...



The warfighter's requirements . . .

- Connectivity
- Access to Information Systems
- Data Capture
- Data Fusion
- Information Accessibility



Can be addressed through:

- Best Practices
- Enterprise Integration
- Commercial-Off-the-Shelf-Technology (COTS)
- Commercial Standards





DoD would be like Wal-Mart . . .

. . . if Wal-Mart's 3000+ stores moved



. . . if a Wal-Mart stockout meant that everyone inside the store could die.



Christmas had to wear a different kind of vest

Copyright © 2000, Wal-Mart Stores, Inc.



Wal-Mart is a lot like DoD

Food, clothing, tools, batteries, office supplies, housekeeping suppliers, fuels, lubricants, greases, guns, ammunition, camping equipment, field gear, personal care products, medical supplies and prescriptions, consumer durables, vehicles, construction materials, tires and other repair items.



**Comparable product lines.
Are these DoD classes of supply, or Wal-Mart Lines
of business?**



RFID for DoD

VISION: Implement knowledge-enabled logistics through fully automated visibility and management of assets in support of the warfighter.

GOAL: Employ mature and emerging supply chain technologies to optimize the supply chain.

OBJECTIVE: Utilize RFID, as an integral part of a comprehensive suite of AIT technology, to facilitate accurate, hands-free data capture in support of business processes in an integrated DoD supply chain enterprise.



RFID is an enabler to create ~~an Integrated DoD Supply~~

Cases/Pallets are **labeled** with passive RFID tags. Cases are associated to pallet

Cases/Pallets **are read** as they are received and **new shipments are labeled**. Orders are verified for

Cases/Pallets are associated with **Active RFID** to provide TAV.

Data is **timely and accurate** via **network of linked readers** allowing asset visibility along the entire supply chain

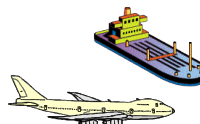
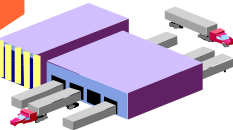
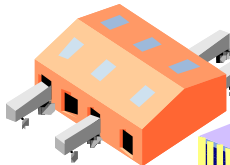
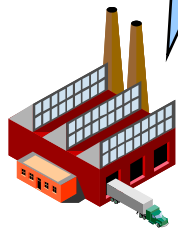
Manufacturers/Suppliers

Distribution Centers/Depots/TD Cs

Commercial/Military Carriers

TMO/Supply/Theater Depots

Customer



Timely and Accurate Data

When shipments are **reconfigured** a **new RFID Tag** is created for the pallet and associated with cases on that pallet

The **cases/pallets are automatically received** with few disputes and info is shared with the AISs. Reconfigured shipments receive a new RFID Tag.

Customers have visibility of requisitions and **are confident** in the status provided by the system



WHO is Affected ?

- **All DoD Military Departments and Agencies**
 - **Internal logistics processes**
 - **Contracts with suppliers**

- **All suppliers of materiel and goods to DoD**



Active RFID

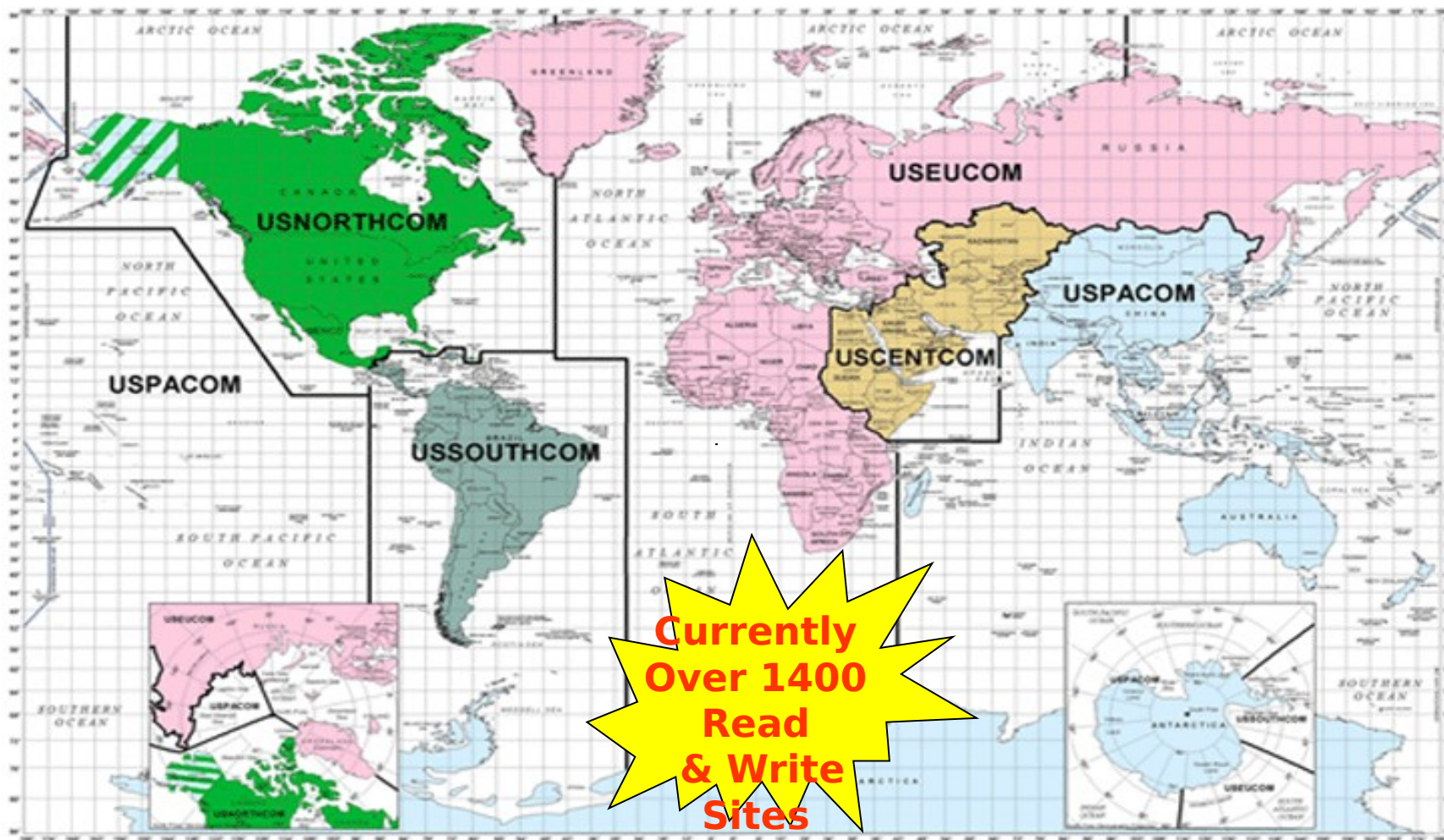
- **Immediately implement *active* RFID**
 - **Put RFID tags on:**
 - **Consolidated sustainment & ammunitions containers & air pallets**
 - **Unit movement equipment**
 - **Prepositioned materiel and supplies**
 - **Establish RFID infrastructure to support core business processes**
 - **Program and budget (O&M or DWCF/TWCF) for RFID operations**
 - **DLA manage Active Tags**



**Supports
COCOM
Directive
Authority**



Active RFID Global Infrastructure





Passive RFID in the Supply Chain

- Tagged items/cases/pallets shipped from suppliers
- Shipment/order data to DoD
 - *Advanced Ship Notice (ASN) Required*
- Shipment/order data captured in DoD Data Environment
- RFID tag read on arrival at DoD Receiving Point
- Tag read generates *Transaction of Record*
 - *Receipt*
 - *Acceptance*
 - *Close-out*
 - *Payment*
 - *Inventory adjustment*
 - *Update to asset visibility systems*





Passive RFID Requirements

- Tagged cases and pallets shipped to DoD receiving points beginning Jan 2005
- Tagged *packaging* for items that require a Unique Identification (UID) shipped to DoD receiving points beginning Jan 2007
- Tags will use EPC-technology specifications
 - Currently available:
 - Class 0-64 bit
 - Class 1-96 bit EPC tags
 - **When available:** UHF Generation 2 EPC tags

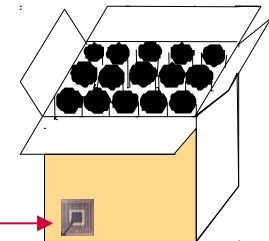


Passive RFID Enables the Supply Chain

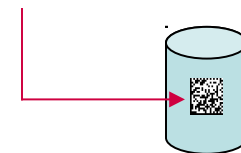


RFID Tag (Case Level)

RFID Tag (Item Package Level)



Data Matrix (Item Level)



RFID Tag (Pallet Level)



WHEN does Implementation take Effect?

- **Active RFID - Operational; Implementation Continuing**



- **Passive RFID**

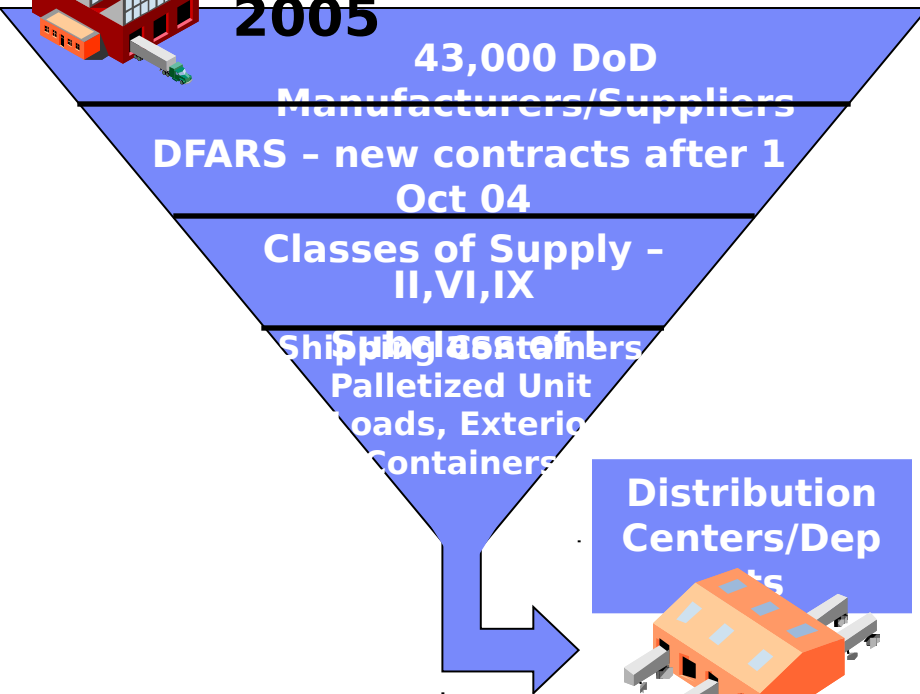
- **DoD - Implementation underway now**
- **Suppliers - Effective Jan 2005 for all new solicitations issued after October 1, 2004 for delivery of materiel on or after January 1, 2005.**



DoD Supplier Implementation Strategy for Passive RFID Commencing on January 1, 2005.

**Commencing January 1,
2005**

CONUS DLA Depots



▪ **San Joaquin
CA**

▪ **Susquehanna
PA**

**85% of
shipments
to DoD**

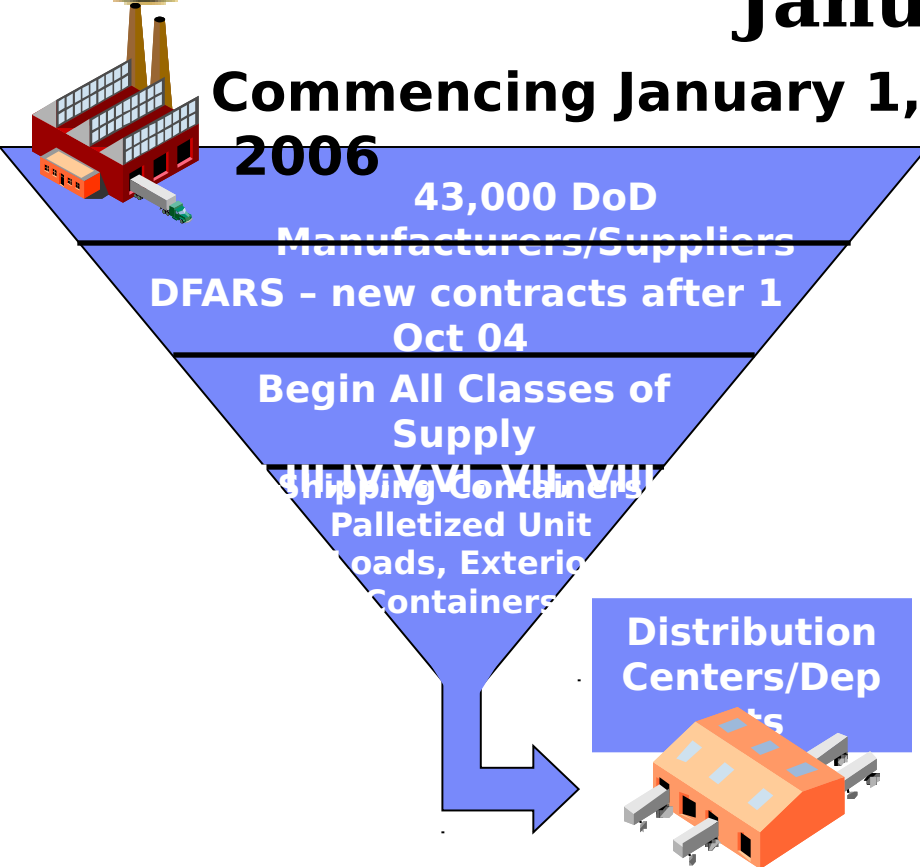
Initial Implementation

- | | |
|------------------------------------|-----------------------------|
| ▪ Camp Lejeune | ▪ Ramstein AFB |
| ▪ Blue Grass
Army Depot | ▪ Norfolk FISC |
| ▪ Dover AFB | ▪ Charleston
AFB |
| ▪ Seymour
Johnson AFB | ▪ Tinker AFB |
| | ▪ Kaiserslautern |
| | ▪ Spangdahlem |



DoD Supplier Implementation Strategy for Passive RFID Commencing on January 1, 2006.

**Commencing January 1,
2006**



- Strategic CONUS DLA Depots,
- TRANSCOM Facilities & Service
- Maintenance Facilities

- Anniston
- Barstow
- Cherry Point
- Columbus
- Corpus Christi
- Hill
- Jacksonville
- Norfolk
- Dover
- City
- Puget Sound
- Red River
- Richmond
- San Diego
- San Joaquin
- Susquehanna
- Tobyhanna
- Warner



DoD Supplier Implementation Strategy for Passive RFID Commencing on January 1, 2007.

**Commencing January 1,
2007**

43,000 DoD
Manufacturers/Suppliers
DFARS - new contracts after 1
Oct 04
All Classes of Supply
Shipping Containers,
Palletized Unit Loads
Interior Containers
UID Item
Unit Pack

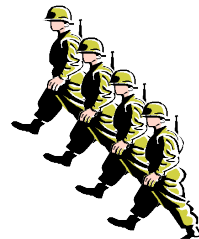
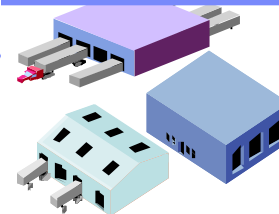
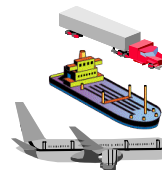
All Locations

Distribution
Centers/Dep

POEs/PODs

TMO/Supply/
Theater
Depots

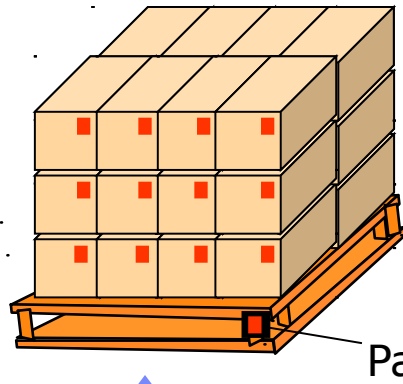
Customer





Implementation Level of Tagging

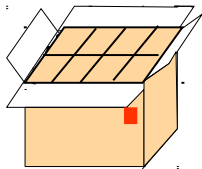
~~Jan 1, 2005 - Dec 31, 2006~~



Palletized Unit Load

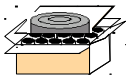
YES

Pallet tag



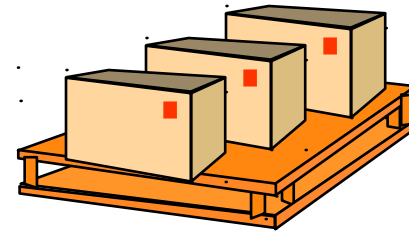
External Container

YES



UID Item Unit

Rock*



Shipping Container

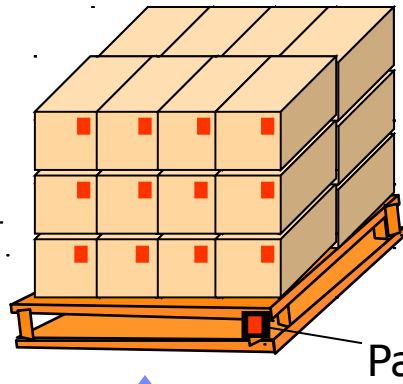
YES

***If the UID Packaging is also an External Container or a Shipping Container, it will have an RFID tag.**

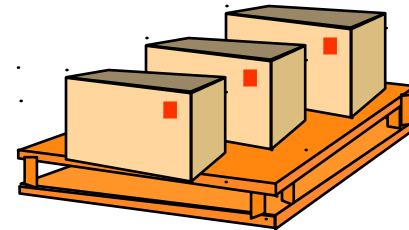


Implementation Level of Tagging

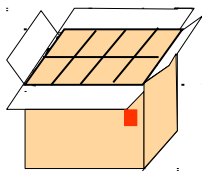
January 1, 2007



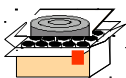
Palletized Unit Load
YES



Shipping Container
YES



External Container
YES



UID Item Unit Pack
YES



Commodity Implementation

**Commencing January 1,
2005**

- **Class I Subclass -
Packaged Operational
Rations & Packaged
Food**
- **Class II - Clothing,
Individual Equipment,
Tools, & Administrative
Supplies**
- **Class VI - Personal
Demand Items**
- **Class IX - Repair Parts
& Components**

**Commencing January 1,
2006**

- **Class I - Subsistence &
Gratuitous Health &
Comfort Items**
- **Class III - Packaged
Petroleum, Lubricants,
Oils, Preservatives,
Chemicals & Additives**
- **Class IV - Construction &
Barrier Equipment**
- **Class V - Ammunition-all
types**
- **Class VII - Major End
Items**
- **Class VIII - Medical
Materials**



Initial Passive UHF RFID Tag Specific

Class	User Memory Size (bits)	Origin	Encoding	Tag Data Constructs
0	64	Supplier	Serial	Tag Manufacturer Encoded Serialization
1	96	Supplier	EPC	SGTIN, GRAI, GIAI, SSCC
1	96	Supplier	DoD	DoD Tag Construct
1	96	DoD	DoD	DoD Tag Construct



RFID Benefits in the DoD Supply Chain

- **DoD Business Processes**
 - **Facilitates Hands-Off Data Capture**
 - **Improves Data Accuracy**
 - **Enhances Asset Visibility**
- **Downstream Derivative Improvements**
 - **Optimizes Transport/Lift Utilization**
 - **Reduces Logistics Footprint**
 - **Improves Manpower Utilization**
 - **Improves Force Tracking**
 - **Improves Logistics Processing Time**
 - **Enhances Interoperability with Industry**



DoD Next Steps

- **POLICY**

- **Publish Final RFID Policy - Jul 04**

- **IMPLEMENTATION**

- **Interim DFARS Rule for passive RFID - Sep 04**
 - *Solicitations issued after 1 Oct 04 for delivery after 1 Jan 05*
 - **Use EPC technology - Jan 05**



Summary

- Supporting *Current Operations* with Active RFID
- Implementing Passive RFID
- Finalizing EPC requirements
- Developing final RFID policies
- Integrating Data Environment



**Setting the foundation for future
supply chain improvements...TODAY!**



The End Game



***Ubiquitous, cost-effective capability
to project and sustain power.***



QUESTIONS?